

CLAIMS

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1. A multicomponent system for use with detergents, containing

a) optionally, at least one oxidation catalyst;

b) at least one suitable oxidizing agent;

c) at least one mediator, selected from the group comprising hydroxylamines, hydroxylamine

5 derivatives, hydroxamic acids, hydroxamic acid derivatives, and the aliphatic, cycloaliphatic,

heterocyclic or aromatic compounds that contain at least one N-hydroxy, oxime, N-oxy, or N,N'-
dioxy function;

d) at least one comediator, selected from the group comprising aryl-substituted alcohols,

carbonyl compounds, aliphatic ethers, phenol ethers, and/or olefins (alkenes); and

e) optionally, a small quantity of at least one free amine of a respective mediator used.

2. The multicomponent system of claim 1, characterized in that in addition to the these
substances, it contains phenolic and/or nonphenolic compounds with one or more benzene nuclei.

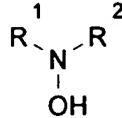
3. The multicomponent system of claim 1 or 2, characterized in that as the oxidation
catalyst, it contains one or more oxidoreductases of classes 1.1.1 - 1.97.

4. The multicomponent system of claim 3, characterized in that it contains one or more
oxidoreductases which use oxygen, peroxides or quinones as electron acceptors.

5. The multicomponent system of claim 3, characterized in that as the oxidoreductase, it
contains laccase (1.10.3.2.).

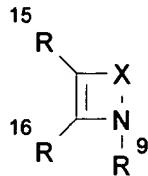
6. The multicomponent system of claim 1 or 2, characterized in that component c), as
the NO-, NOH- or H-NR- OH-containing aliphatic, cycloaliphatic, heterocyclic or aromatic
compounds, it contains N-hydroxy, oxime, N-oxy and N,N'-dioxy compounds in single- or
multicomponent systems.

7. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains hydroxylamines of the general formula

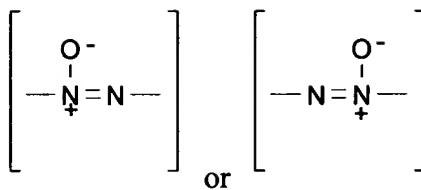


- 5 in which the substituents R¹ and R², which may be the same or different, independently of one other represent one of the following groups: hydrogen, C₁-C₁₂ alkyl, carbonyl C₁-C₆ alkyl, phenyl, aryl, of which C₁-C₁₂ alkyl, carbonyl C₁-C₆ alkyl, phenyl, aryl may be unsubstituted or may also be substituted once or multiple times with the radical R³, in which the radical R³ may represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof, amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, sulfono, their esters and salts, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters; in which the amino, carbamoyl and sulfamoyl groups of the radical R³ may be unsubstituted or may be substituted once or two times with hydroxyl, C₁-C₃ alkyl, C₁-C₃ alkoxy; in which the radicals R¹ and R² can jointly form a group-B-, and -B- in that case represents one of the following groups:
10 (-CHR⁴-)_n, (CR⁴=CH-)_m; and in which R⁴ is a substituent that is defined line R³, and n represents an integer from 1 to 6 and m represents an integer from 1 to 3.

8. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains substances of the general formula



- 5 in which X stands for one of the following groups: (-N=N-), (-N=CR¹⁰-)_p, (-CR¹⁰=N-)_p, (-CR¹¹=CR¹²-)_p



and p is equal to 1 or 2, in which the radicals R⁹ to R¹², R¹⁵ and R¹⁶ may be the same or different and

10 independently of one another can represent one of the following groups: hydrogen, halogen,

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hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, sulfono esters and salts thereof, sulfamoyl, carbamoyl, phospho,

phosphono, phosphonooxy and their salts and esters; and in which the amino, carbamoyl and

sulfamoyl groups of the radicals R⁹ to R¹², R¹⁵ and R¹⁶ may be unsubstituted or may also be

15 substituted once or two times with hydroxyl, C₁-C₃ alkyl, C₁-C₃ alkoxy; and in which the radicals R¹⁵

and R¹⁶ can form a common group -G-, and -G- represents one of the following groups: (-CR⁵=CR⁶-CR⁷=CR⁸) or (-CR⁸=CR⁷-CR⁶=CR⁵-), in which the radicals R⁵ to R⁸ may be the same or different

and independently of one another can represent one of the following groups: hydrogen, halogen,

hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, sulfono, esters and salts thereof, sulfamoyl, carbamoyl, phospho,

phosphono, phosphonooxy and their salts and esters, and in which the amino, carbamoyl and

sulfamoyl groups of the radicals R⁵ to R⁸ may be unsubstituted or may also be substituted once or

two times with hydroxyl, C₁-C₃ alkyl, C₁-C₃ alkoxy; and in which the C₁-C₁₂ alkyl, C₁-C₆ alkyloxy,

carbonyl C₁-C₆ alkyl, phenyl, aryl groups of radicals R⁵ to R⁸ may be unsubstituted or may also be

25 substituted one or two times with the radical R¹⁸, in which the radical R¹⁸ can represent one of the

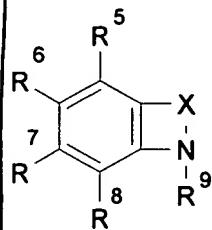
following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and their salts and esters; amino,

nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl, and their esters and salts, and

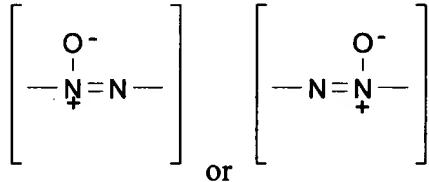
the carbamoyl, sulfamoyl, amino groups of the radical R¹⁸ may be unsubstituted or may also be substituted once or two times with the radical R¹⁹ and the radical R¹⁹ may represent one of the
 30 following groups: hydrogen; hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl.

9. The multicomponent system of claim 6, characterized in that the component c), as NO-, NOH- or H-NR- OH-containing compounds, contains compounds of the general formula III,

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5 in which X stands for one of the following groups: (-N=N-), (-N=CR¹⁰-)_p, (-CR¹⁰=N-)_p,
 (-CR¹¹=CR¹²-)_p



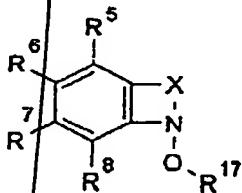
and p is equal to 1 or 2, in which the radicals R¹ to R¹² are same or different and independently of one another can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl,
 10 carboxyl and salts and esters thereof; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl, sulfono, esters and salts thereof, sulfamoyl, carbamoyl, phospho, phosphono, phosphonoxy and their salts and esters; and in which their amino, carbamoyl and sulfamoyl groups may be unsubstituted or may also be substituted once or two times with hydroxy, C₁-C₃ alkyl, C₁-C₃ alkoxy; and in which the C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl, aryl C₁-C₆ alkyl groups of radicals R⁵ to R¹² may be unsubstituted or substituted once or two times with the
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radical R¹³, and the radical R¹³ can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl, sulfono, sulfeno, sulfino, and their esters and salts. The carbamoyl, sulfamoyl, amino groups of the radical R¹³ may be unsubstituted or may also be substituted once or two times with the radical R¹⁴.

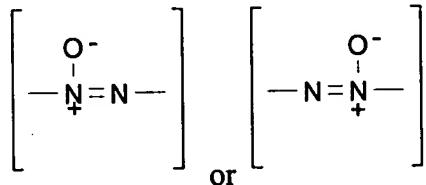
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The radical R¹⁴ may represent one of the following groups: hydrogen; hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl or aryl.

10. The multicomponent system of claim 6, characterized in that the component c), as NO-, NOH- or H-NR- OH-containing compounds, contains compounds of the general formula IV,



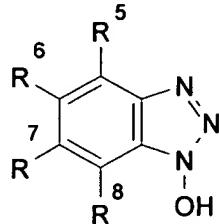
in which X stands for one of the following groups: (-N=N-), (-N=CR¹⁰-)_p, (-CR¹⁰=N-)_p, (-CR¹¹=CR¹²-)_p



10 and p is equal to 1 or 2, in which for the radicals R⁵ to R⁸ and R¹⁰ to R¹² the same as in claim 9 applies, and R¹⁷ can be hydrogen, C₁-C₁₀ alkyl, C₁-C₁₀ carbonyl, of which C₁-C₁₀ alkyl and C₁-C₁₀ carbonyl can be unsubstituted or mono- or polysubstituted with a radical R¹⁸, which is defined like R³.

11. The multicomponent system of claim 6, characterized in that component c), as NO-,

NOH- or H-NR-OH- containing compounds, contains 1-hydroxybenzotriazol and the tautomeric benzotriazole-1-oxide, as well as their esters and salts, of the formula



in which the radicals R¹ to R⁸ may be the same or different and independently of one another can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, sulfono esters and salts thereof, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters; and in which the amino, carbamoyl and sulfamoyl groups of the radicals R⁵ to R⁸ may be unsubstituted or may also be substituted once or two times with hydroxyl, C₁-C₃ alkyl, C₁-C₃ alkoxy; and in which the C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl groups of radicals R⁵ to R⁸ may be unsubstituted or may also be substituted or mono- or polysubstituted with the radical R¹⁸, in which the radical R¹⁸ can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl, sulfeno, sulfino, and their esters and salts, and the carbamoyl, sulfamoyl, amino groups of the radical R¹⁸ may be unsubstituted or may also be substituted once or two times with the radical R¹⁹, and the radical R¹⁹ may represent one of the following groups: hydrogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro, C₁-C₁₂ alkyl, C₁-C₆ alkyloxy, carbonyl C₁-C₆ alkyl, phenyl, aryl.

12. The multicomponent system of claim 6, characterized in that component c), as NO-,

NOH- or H-NR-OH- containing compounds, contains such compounds of azoles.

13. The multicomponent system of claim 6, characterized in that component c), as NO-,
NOH- or H-NR-OH- containing compounds, contains such compounds of condensed heterocyclic
compounds which contain a triazolo or tetrazolo unit, such as:

- 5 [1,2,4]triazolo[4,3-a]pyridine,
[1,2,4]triazolo[1,5-a]pyridine,
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[1,2,4]triazolo[4,3-a]quinoline,
[1,2,4]triazolo[4,3-b]isoquinoline,
[1,2,4]triazolo[3,4-a]isoquinoline,
10 [1,2,4]triazolo[1,5-b]isoquinoline,
[1,2,4]triazolo[5,1-a]isoquinoline,
[1,2,3]triazolo[1,5-a]pyridine,
[1,2,3]triazolo[4,5-b]pyridine,
[1,2,3]triazolo[4,5-c]pyridine,
15 [1,2,3]triazolo[1,5-a]quinoline,
[1,2,3]triazolo[5,1-a]isoquinoline,
[1,2,4]triazolo[4,3-b]pyridazine,
[1,2,4]triazolo[1,5-b]pyridazine,
[1,2,4]triazolo[4,5-d]pyridazine,
20 [1,2,4]triazolo[4,3-b]quinoline,
[1,2,4]triazolo[3,4-a]phthalazine,
[1,2,4]triazolo[4,3-a]pyrimidine,
[1,2,4]triazolo[4,3-c]pyrimidine,
[1,2,4]triazolo[1,5-a]pyrimidine,

25 [1,2,4]triazolo[1,5-c]pyrimidine,
[1,2,4]triazolo[4,3-c]quinazoline,
[1,2,4]triazolo[1,4-a]quinazoline,
[1,2,4]triazolo[1,5-c]quinazoline,
[1,2,4]triazolo[5,1-b]quinazoline,
30 [1,2,3]triazolo[1,5-a]pyrimidine,
[1,2,3]triazolo[1,5-c]pyrimidine,
[1,2,3]triazolo[4,5-d]pyrimidine,
[1,2,3]triazolo[1,5-a]quinazoline,
[1,2,3]triazolo[1,5-c]quinazoline,
35 [1,2,4]triazolo[4,3-a]pyrazine,
[1,2,4]triazolo[1,5-a]pyrazine,
[1,2,3]triazolo[4,5-b]pyrazine,
[1,2,4]triazolo[4,3-a]quinoxaline,
[1,2,3]triazolo[1,5-a]quinoxaline,
40 [1,2,4]triazolo[4,3-b][1,2,4]triazine,
[1,2,4]triazolo[3,4-c][1,2,4]triazine,
[1,2,4]triazolo[4,3-d][1,2,4]triazine,
[1,2,4]triazolo[3,4-f][1,2,4]triazine,
[1,2,4]triazolo[1,5-b][1,2,4]triazine,
45 [1,2,4]triazolo[5,1-c][1,2,4]triazine,
[1,2,4]triazolo[1,5-d][1,2,4]triazine,
[1,2,4]triazolo[4,3-a][1,3,5]triazine,

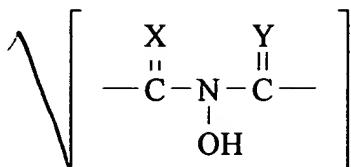
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[1,2,4]triazolo[1,5-a][1,3,5]triazine,
tetrazolo[1,5-a]pyridine,
50 tetrazolo[1,5-b]isoquinoline,
tetrazolo[1,5-a]quinoline,
tetrazolo[5,1-a]isoquinoline,
tetrazolo[1,5-b]pyridazine,
tetrazolo[1,5-b]quinoline,
55 tetrazolo[5,1-a]phthalazine,
tetrazolo[1,5-a]pyrimidine,
tetrazolo[1,5-c]pyrimidine,
tetrazolo[1,5-a]quinazoline,
tetrazolo[1,5-c]quinazoline,
60 tetrazolo[1,5-a]pyrazine,
tetrazolo[1,5-a]quinoxaline,
tetrazolo[1,5-b][1,2,4]triazine,
tetrazolo[5,1-c][1,2,4]triazine,
tetrazolo[1,5-d][1,2,4]triazine,
65 tetrazolo[5,1-f][1,2,4]triazine.

14. The multicomponent system of claim 6, characterized in that as mediators (component c), NO-, NOH- or H-RN-OH-containing compounds are selected from the group of cyclical N-hydroxy compounds having at least one optionally substituted 5- or 6-member ring of the structure given in formula A:

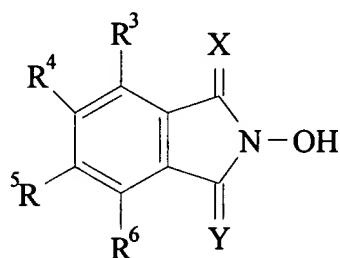
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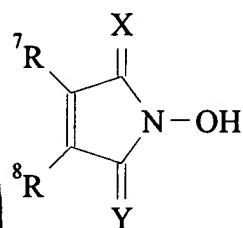
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as well as their salts, ethers or ester, in which X and Y are the same or different and stand for O, S or NR¹, in which R¹ stands for hydrogen, hydroxyl, formyl, carbamoyl, or sulfono radical, or ester or salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, aryl C₁-C₅ alkyl, C₁-C₁₂ alkyl, C₁-C₅

10 alkoxy, C₁-C₁₀ carbonyl, carbonyl C₁-C₆ alkyl, phospho, phosphono or phosphonoxy radical, or ester or salt of the phosphonoxy radical; in which carbamoyl, sulfamoyl, amino and phenyl radicals may be unsubstituted or substituted once or multiple times with a radical R², and the aryl C₁-C₅ alkyl, C₁-C₁₂ alkyl, C₁-C₅ alkoxy, C₁-C₁₀ carbonyl, carbonyl C₁-C₆ alkyl radicals may be saturated or unsaturated, branched or unbranched, and substituted once or multiple times with a radical R², and R² is the same or different and stands for hydroxyl, formyl, or carboxyl radical, ester or salt of the carboxyl radical, carbamoyl, sulfono ester or salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, C₁-C₅ alkyl, C₁-C₅ alkoxy radical.

15. The multicomponent system of claim 6 or 14, characterized in that as the mediator (component c), at least one compound of the general formula VI, VII, VIII or IX is used:

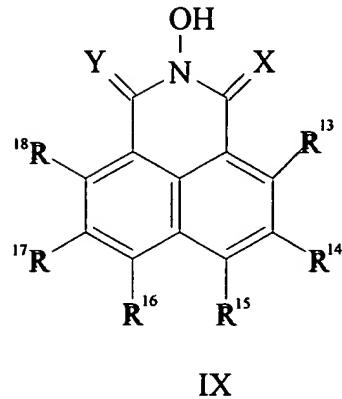
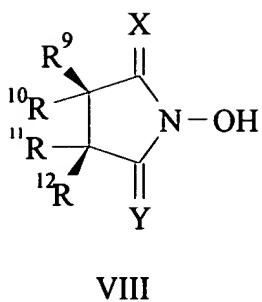


VI



VII

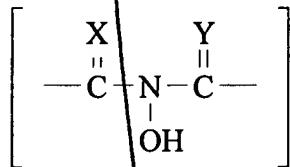
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in which X, Y have the meanings already given and the radicals R³ to R¹⁸ are the same or different

10 and stand for halogen radical, carboxyl radical, salt or ester of a carboxyl radical, or the meaning given for R¹; in which R⁹ and R¹⁰, or R¹¹ and R¹², must not at the same time stand for a hydroxyl or amino radical, and optionally two at a time of the substituents R³ to R⁶, R⁷ to R⁸, R⁹ to R¹², R¹³ to R¹⁸ can be linked together into a ring -B-, in which -B- has one of the following meanings:

(-CH=CH)-_n, where n = 1-3, -CH=CH-CH=N-, or



Formula A and in which optionally the radicals R⁹ to R¹² may also be linked to one another by one or

two bridge elements -Q-, in which -Q- may be the same or different and can have the following

meanings: -O-, -S-, CH₂-, -CR¹⁹=CR²⁰-; in which R¹⁹ and R²⁰ are the same or different and have the

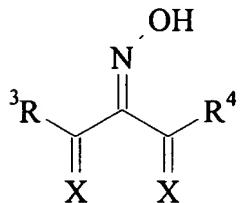
20 same meaning as R³.

16. The multicomponent system of claim 6, 14, 15, characterized in that as the mediator, at least one substance, selected from the group comprising N-hydroxyphthalimide, optionally substituted N-hydroxyphthalimide derivatives, N-hydroxymaleimide, optionally substituted N-

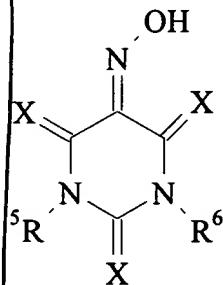
hydroxymaleimide derivatives, N-hydroxynaphthalic acid imide, optionally substituted N-

- 5 hydroxynaphthalic acid imide derivatives, N-hydroxysuccinimide, optionally substituted N-hydroxysuccinimide derivatives, is used.

17. The multicomponent bleaching system of claim 6, characterized in that as the mediators (component c), oximes of the general formula X or XI



X



XI

and their salts, ethers or esters are used, in which X is the same or different and stands for O, S or NR¹, in which R¹ stands for hydrogen, hydroxyl, formyl, carbamoyl, or sulfono radical, or ester or salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, aryl C₁-C₅ alkyl, C₁-C₁₂ alkyl, C₁-C₅ alkoxy, C₁-C₁₀ carbonyl, carbonyl C₁-C₆ alkyl, phospho, phosphono or phosphonooxy radical, or ester or salt of the phosphonooxy radical, in which carbamoyl, sulfamoyl, amino and phenyl radicals may be unsubstituted or substituted once or multiple times with a radical R², and the aryl C₁-C₅ alkyl, C₁-C₁₂ alkyl, C₁-C₅ alkoxy, C₁-C₁₀ carbonyl, carbonyl C₁-C₆ alkyl radicals may be saturated or unsaturated, branched or unbranched, and substituted once or multiple times with a radical R², and R² is the same or different and stands for hydroxyl, formyl, or carboxyl radical, ester or salt of the carboxy radical, carbamoyl, sulfone ester or salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, C₁-C₅ alkyl, C₁-C₅ alkoxy radical, and the radicals R³ and R⁴ are the same or different

and stand for halogen, carboxyl radical, ester or salt of the carboxyl radical, or have the meanings given for R¹, or are linked together into a ring (-CR⁷R⁸)_n, where n is equal to 2, 3 or 4, and R⁵ and R⁶ have the meanings given for R₁, and R⁷ and R⁸ are the same or different and stand for

20 halogen, carboxyl radical, ester or salt of the carboxyl radical, or have the meanings given for R¹.

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18. The multicomponent bleaching system of one of claims 6 or 17, characterized in that as the mediator, compounds of the general formula X, in which X stands for O or S, and the other radicals have the above-given meanings, are used.

19. The multicomponent system of one of claims 6, 17 or 18, characterized in that as the mediator, isonitroso derivatives of cyclical ureides of the general formula XI are used.

20. The multicomponent bleaching system of one of claims 6, 17 to 19, characterized in that as the mediator, alloxane-5-oxime hydrate (violuric acid) or its esters or salts are used.

21. The multicomponent system of claim 1 or 2, characterized in that as the oxidizing agent, it contains for instance air, oxygen, ozone, H₂O₂, organic peroxides, peracids such as peracetic acid, performic acid, persulfuric acid, permanganic acid, metachloroperoxybenzoic acid, perchloric acid, perborates, peracetates, persulfates, peroxides, or oxygen species and their free radicals, such as OH, OOH, superoxide (O₂⁻) radicals, singlet oxygen, ozonide, dioxygenyl cation (O₂⁺), dioxiranes, dioxitanes, or Fremy radicals.

22. The multicomponent system of claim 1 or 2, characterized in that as component d), it contains aliphatic ethers and/or aryl-substituted alcohols, such as:

2,3-dimethoxybenzyl alcohol, 3,4-dimethoxybenzyl alcohol, 2,4-dimethoxybenzyl alcohol, 2,6-dimethoxybenzyl alcohol, homovanillyl alcohol, ethylene glycol monophenyl ether, 2-hydroxybenzyl alcohol, 4-hydroxybenzyl alcohol, 4-hydroxy-3-methoxybenzyl alcohol, 2-

methoxybenzyl alcohol, 2,5-dimethoxybenzyl alcohol, 2,4-dimethoxybenzylamine, 2,4-dimethoxybenzylamine hydrochloride, veratryl alcohol, and coniferyl alcohol.

23. The multicomponent system of claim 1 or 2, characterized in that as component (d), it contains olefins (alkenes), such as:

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2-allylphenol, 2-allyl-6-methylphenol, allylbenzene, 3,4-dimethoxypropylbenzene, p-methoxystyrene, 1-allylimidazol, 1-vinylimidizol, styrene, stilbene, allylphenyl ether, cinnamic acid benzyl ester, cinnamic acid methyl ester, 2,4,6-triallyloxy-1,3,5-triazine, 1,2,4-trivinylcyclohexane, 4-allyl-1,2-dimethoxybenzene, 4-tert-butylbenzoic acid vinyl ester, squalene, benzoin allyl ether, cyclohexene, dihydropyran, and N-benzylcinnamic acid anilide.

24. The multicomponent system of claim 1 or 2, characterized in that as component (d), it contains phenol ethers, such as:

2,3-dimethoxybenzyl alcohol, 3,4-dimethoxybenzyl alcohol, 2,4-dimethoxybenzyl alcohol, 2,6-dimethoxybenzyl alcohol, homovanillyl alcohol, 4-hydroxybenzyl alcohol, 4-hydroxy-3-methoxybenzyl alcohol, 2-methoxybenzyl alcohol, 2,5-dimethoxybenzyl alcohol, 2,4-dimethoxybenzylamine, 2,4-dimethoxybenzylamine hydrochloride, veratryl alcohol, coniferyl alcohol, veratrol, and anisol.

25. The multicomponent system of of claim 1 or 2, characterized in that as component (d), it contains carbonyl compounds, such as:

4-aminobenzophenone, 4-acetyl biphenyl, benzophenone, benzil, benzophenone hydrazone, 3,4-dimethoxybenzaldehyde, 3,4-dimethoxybenzoic acid, 3,4-dimethoxybenzophenone, 4-dimethylaminobenzaldehyde, 4-acetyl biphenyl hydrazone, benzophenone-4-carboxylic acid, benzoyl acetone, bis-(4,4-dimethylamino)benzophenone, benzoin, benzoin oxime,

N-benzoyl-N-phenylhydroxylamine, 2- amino-5-chlorobenzophenone, 3-hydroxy-4-methoxybenzaldehyde, 4-methoxybenzaldehyde, anthraquinone-2-sulfonic acid, 4-methylaminobenzaldehyde, benzaldehyde, benzophenone-2- carboxylic acid, 3,3,'4,4'-benzophenonetetracarboxylic acid dianhydride, (S)-(-)-2-(N-benzylpropyl)aminobenzo-henone, benzylphenyl acetic acid anilide, N-benzylbenzanilide, 4,4'- bis-(dimethylamino)-thiobenzophenone, 4,4-bis(diacetylamino)benzophenone, 2-chlorobenzophenone, 4,4'- dihydroxybenzophenone, 2,4-dihydroxybenzophenone, 3,5- dimethoxy-4-hydroxybenzaldehyde hydrazine, 4-hydroxybenzophenone, 4-methoxybenzophenone, 3,4- dihydroxybenzophenone, p-anisic acid, p-anisic aldehyde, 3,4- dihydroxybenzaldehyde, 3,4-dihydroxybenzoic acid, 3,5- dimethoxy-4-hydroxybenzaldehyde, 3,5-dimethoxy-4- hydroxybenzoic acid, 4-hydroxybenzaldehyde, salicylaldehyde, vanillin, and vannilic acid.

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26. The multicomponent system of claims 1 or 2, characterized in that as component (e), it contains benzotriazole as a free amine, in the case of the in situ generation or reaction mediation in cascade form for hydroxybenzotriazol.

27. The multicomponent system of claims 1 and 2, characterized in that as oxidoreductases, it contains enzymes originating in white rotting fungus [Phanerochaete chrysosporium], Trametes versicolor other fungi, bacteria, animals or plants, which enzymes are obtained from natural organisms or organisms that have been altered by gene technology.

28. The multicomponent system of claims 1 and 2, characterized in that as catalysts it contains modified enzymes, enzyme components, prosthetic groups or mimic substances, preferably heme groups or compounds containing heme groups.

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29. The multicomponent system of claim 21, characterized in that as the oxidizing agents it contains oxygen, which is generated in situ by means of $H_2O_2 +$ catalase or other systems or H_2O_2 from GOD+ glucose or other systems.

30. The multicomponent system of claims 1 to 29, characterized in that it contains cation-forming metal salts.

31. The multicomponent system of claim 30, characterized in that the cations are Fe^{2+} , Fe^{3+} , Mn^{2+} , Mn^{3+} , Mn^{4+} , Cu^+ , Cu^{2+} , Ti^{3+} , Cer^{4+} , Mg^{2+} , and Al^{3+} .

32. The multicomponent system of claims 1 and 31, characterized in that in addition it contains polysaccharides and/or proteins.

33. The multicomponent system of claims 1 to 32, characterized in that as polysaccharides it contains glucanes, mannanes, dextrans, levans, pectins, alginates, or vegetable rubbers, and/or its own polysaccharides formed by the fungi or produced in a mixed culture with yeasts, and as proteins, it contains gelatin or albumin.

34. The multicomponent system of claims 1 to 33, characterized in that as additives it contains simple sugar, oligomer sugar, amino acids, polyethylene glycols, polyethylene oxides, polyethylene imines and polydimethyl siloxanes.

35. A detergent containing the multicomponent system of one of claims 1 to 34.

36. The use of the multicomponent system of one of claims 1 to 35 as an additive to detergent formulations with detergent substances or detergent additives known per se.

37. The use of the multicomponent system of one of claims 1 to 36, characterized in that it is used at a pH value between 2 and 12, preferably between 4 and 10, and at a temperature between 10°C and 60°C, and preferably between 20°C and 40°C.

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